

WHAT IS CLAIMED IS:

1. A vibration apparatus for tooling, comprising:
a container comprising:
a top surface;
a bottom surface;
a first layer of elastomeric material located on the bottom surface,
a first conductor located in the first layer;
a second layer of elastomeric material on the first layer, and defining a space between the first layer and the second layer;
a second conductor located in the second layer in proximity to the first conductor; and
a cavity located between the top surface and the second layer.
2. The vibration apparatus of claim 1, further comprising:
a first power source generating a first current in the first conductor;
and
a second power source generating a second current opposite the first current in the second conductor.
3. The vibration apparatus of claim 2, further comprising:
a first plurality of capacitors electrically connected to the first power source;
a first switch electrically connected to the first plurality of capacitors and the first conductor,
a second plurality of capacitors electrically connected to the second power source; and
a second switch electrically connected to the second plurality of capacitors and the second conductor.
4. The vibration apparatus of claim 1, wherein the first and second conductors comprise copper ribbon.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

5. A vibration apparatus for tooling, comprising:
 - a container comprising:
 - a top surface;
 - a bottom surface;
 - a first layer of elastomeric material located on the bottom surface,
 - a second layer of elastomeric material on the first layer, and defining a space between the first layer and the second layer;
 - a first conductor comprising copper ribbon and located in the first layer;
 - a second conductor comprising copper ribbon and located in the second layer in proximity to the first conductor, and
 - a cavity located between the top surface and the second layer;
 - a first power source generating a first current in the first conductor;
 - a first plurality of capacitors electrically connected to the first power source;
 - a first switch electrically connected to the first plurality of capacitors and the first conductor;
 - a second power source generating a second current opposite the first current in the second conductor;
 - a second plurality of capacitors electrically connected to the second power source; and
 - a second switch electrically connected to the second plurality of capacitors and the second conductor.
6. A tooling for a fuselage comprising
 - a bag comprising:
 - a top surface;
 - a bottom surface;

a first layer of elastomeric material located on the bottom surface,

a second layer of elastomeric material on the first layer and defining a space between the first layer and the second layer;

a first conductor located in the first layer;

a second conductor located in the second layer in proximity to the first conductor; and

a cavity located between the top surface and the second layer; and

an armature located through the bag;

7. The tooling of claim 6, further comprising:

a first power source generating a first current in the first conductor; and

a second power source generating a second current opposite the first current in the second conductor.

8. The tooling of claim 7, further comprising:

a first plurality of capacitors electrically connected to the first power source; and

a first switch electrically connected to the first plurality of capacitors and the first conductor, and

a second plurality of capacitors electrically connected to the second power source; and

a second switch electrically connected to the second plurality of capacitors and the second conductor.

9. A method of vibrating tooling, comprising:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

10. The method of claim 9, wherein
generating a current flow in a first conductor further comprises:
 - providing a charge to a first plurality of capacitors from a first power source; and
 - releasing the charge from the first plurality of capacitors into the first conductor; andgenerating a current flow in a second conductor further comprises:
 - providing a charge to a second plurality of capacitors from a second power source; and
 - releasing the charge from the second plurality of capacitors into the second conductor.
11. A system for vibrating tooling, comprising:
 - a first generating component configured to generate a first current flow in a first conductor located in the tooling; and
 - a producing component configured to produce a vibration in the tooling comprising a second generating component configured to generate a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.
12. The system of claim 11, wherein
the first generating component further comprises:
 - a first providing component configured to provide a charge to a first plurality of capacitors from a first power source; and
 - a first releasing component configured to release the charge from the first plurality of capacitors into the first conductor; andthe second generating component further comprises:
 - a second providing component configured to provide a charge to a second plurality of capacitors from a second power source; and

a second releasing component configured to release the charge from the second plurality of capacitors into the second conductor.

13. A computer-implemented method of vibrating tooling, comprising:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

14. A system for vibrating tooling, comprising:

a first generating means for generating a first current flow in a first conductor located in the tooling; and

a producing means for producing a vibration in the tooling comprising a second generating means for generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

15. A method of filling a tooling with media comprising;

placing media in the tooling; and

vibrating the tooling to compact the media in the tooling, wherein vibrating further comprises:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

16. The method of claim 15, wherein vibrating the tooling occurs at timed intervals during placing media in the tooling.

17. The method of claim 15, wherein

generating a current flow in a first conductor further comprises:

providing a charge to a first plurality of capacitors from a first power source; and

releasing the charge from the first plurality of capacitors into the first conductor; and

generating a current flow in a second conductor further comprises:

providing a charge to a second plurality of capacitors from a second power source; and

releasing the charge from the second plurality of capacitors into the second conductor.

18. A system for filling a tooling with media comprising;

a placing component configured to place media in the tooling; and

a vibrating component configured to vibrate the tooling to compact the media in the tooling, wherein the vibrating component further comprises:

a first generating component configured to generate a first current flow in a first conductor located in the tooling; and

a producing component configured to produce a vibration in the tooling comprising a second generating component configured to generate a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

19. The system of claim 18, wherein the vibrating component is further configured to vibrate the tooling at timed intervals while placing media in the tooling.

20. The system of claim 18, wherein

the first generating component further comprises:

a providing component configured to provide a charge to a first plurality of capacitors from a first power source; and

a releasing component configured to release the charge from the first plurality of capacitors into the first conductor; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

the second generating component further comprises:

a providing component configured to provide a charge to a second plurality of capacitors from a second power source; and

a releasing component configured to release the charge from the second plurality of capacitors into the second conductor.

21. A computer-implemented method of filling a tooling with media comprising;

placing media in the tooling; and

vibrating the tooling to compact the media in the tooling, wherein vibrating further comprises:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

22. A system for filling a tooling with media comprising;

a placing means for placing media in the tooling; and

a vibrating means for vibrating the tooling to compact the media in the tooling, wherein the vibrating means further comprises:

a first generating means for generating a first current flow in a first conductor located in the tooling; and

a producing means for producing a vibration in the tooling comprising a second generating means for generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

23. A method of extracting media from a tooling comprising;

inserting a vacuum into the tooling;

removing media from the tooling using the vacuum; and

vibrating the tooling during removing media to dislodge the media in the tooling, wherein vibrating further comprises:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

24. The method of claim 23, wherein vibrating the tooling occurs at timed intervals during removing media from the tooling.

25. The method of claim 23, wherein

generating a current flow in a first conductor further comprises:

providing a charge to a first plurality of capacitors from a first power source; and

releasing the charge from the first plurality of capacitors into the first conductor; and

generating a current flow in a second conductor further comprises:

providing a charge to a second plurality of capacitors from a second power source; and

releasing the charge from the second plurality of capacitors into the second conductor.

26. A system for extracting media from a tooling comprising;

an inserting component configured to insert a vacuum into the tooling;

a removing component configured to remove media from the tooling using the vacuum; and

a vibrating component configured to vibrate the tooling while removing media to dislodge the media in the tooling, wherein the vibrating component further comprises:

a first generating component configured to generate a first current flow in a first conductor located in the tooling; and

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

a producing component configured to produce a vibration in the tooling comprising a second generating component configured to generate a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

27. The system of claim 26, wherein the vibrating component is configured to vibrate the tooling at timed intervals while removing media from the tooling.

28. The system of claim 26, wherein

the first generating component further comprises:

a first providing component configured to provide a charge to a first plurality of capacitors from a first power source; and

a first releasing component configured to release the charge from the first plurality of capacitors into the first conductor; and

the second generating component further comprises:

a second providing component configured to provide a charge to a second plurality of capacitors from a second power source; and

a second releasing component configured to release the charge from the second plurality of capacitors into the second conductor.

29. A computer-implemented method of extracting media from a tooling comprising;

inserting a vacuum into the tooling;

removing media from the tooling using the vacuum; and

vibrating the tooling during removing media to dislodge the media in the tooling, wherein vibrating further comprises:

generating a first current flow in a first conductor located in the tooling; and

producing a vibration in the tooling by generating a second current flow opposite the first current flow in a second

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

conductor located in the tooling and being in proximity to the first conductor.

30. A system for extracting media from a tooling comprising;
- an inserting means for inserting a vacuum into the tooling;
 - a removing means for removing media from the tooling using the vacuum; and
 - a vibrating means for vibrating the tooling while removing media to dislodge the media in the tooling, wherein the vibrating means further comprises:
 - a first generating means for generating a first current flow in a first conductor located in the tooling; and
 - a producing means for producing a vibration in the tooling comprising a second generating means for generating a second current flow opposite the first current flow in a second conductor located in the tooling and being in proximity to the first conductor.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER ^{LLP}

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com